Docket No. AUS920040117US1

CLAIMS:

What is claimed is:

1.   A method, in a data processing system, for allocating service provider system resources to hosted applications, comprising:

determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent;

retrieving SLA information for the plurality of SLAs;

determining a minimum penalty SLA from the plurality of SLAs based on the retrieved SLA information; and

reallocating service provider system resources from applications associated with the minimum penalty SLA to applications associated with the first SLA.

2.   The method of claim 1, wherein retrieving SLA information for the plurality of SLAs includes extracting the SLA information from one or more Extensible Markup Language (XML) documents in an SLA storage system.

3.   The method of claim 1, wherein the SLA information includes one or more penalties associated with each of the SLAs in the plurality of SLAs, and wherein determining a minimum penalty SLA based on the retrieved SLA information includes:

Docket No. AUS920040117US1

identifying a lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs;

comparing the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs to a penalty associated with the first SLA; and

selecting an SLA associated with either the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs or the first SLA as a minimum penalty SLA based on the comparison.

4. The method of claim 1, further comprising:

retrieving current service provider system resource allocation information for applications associated with each SLA of the plurality SLAs, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein determining a minimum penalty SLA based on the retrieved SLA information includes:

identifying a subset of SLAs from the plurality of SLAs that have a sufficient current allocation of service provider system resources to be reallocated to applications associated with the first SLA in order to avoid breaching the first SLA;

identifying a lowest penalty associated with SLAs in the subset of SLAs, to thereby identify a lowest penalty SLA candidate; and

selecting the lowest penalty SLA candidate as the minimum penalty SLA.

Docket No. AUS920040117US1

5.   The method of claim 4, further comprising:

retrieving historical information for the lowest penalty SLA candidate;

determining if the lowest penalty SLA candidate has been breached more than a threshold number of times within a predetermined time period based on the historical information; and

selecting a next lowest penalty SLA from the subset of SLAs as the lowest penalty SLA candidate if the lowest penalty SLA candidate has been breached more than a threshold number of times within the predetermined time period.

6.   The method of claim 1, wherein determining whether a breach of a first SLA is imminent includes using a prediction engine to generate a prediction of whether the first SLA will be breached based on monitored metrics of a service provider system.

7.   The method of claim 6, wherein the prediction engine is a trend analysis algorithm associated with a service level management system.

8.   The method of claim 1, wherein, if it is determined that a breach of a first SLA is not imminent, allocation of service provider system resources is performed in a default manner.

Docket No. AUS920040117US1

9.   A computer program product in a computer readable medium for allocating service provider system resources to hosted applications, comprising:

first instructions for determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent;

second instructions for retrieving SLA information for the plurality of SLAs;

third instructions for determining a minimum penalty SLA from the plurality of SLAs based on the retrieved SLA information; and

fourth instructions for reallocating service provider system resources from applications associated with the minimum penalty SLA to applications associated with the first SLA.

10.   The computer program product of claim 9, wherein the second instructions for retrieving SLA information for the plurality of SLAs include instructions for extracting the SLA information from one or more Extensible Markup Language (XML) documents in an SLA storage system.

11.   The computer program product of claim 9, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein the third instructions for determining a minimum penalty SLA based on the retrieved SLA information include:

instructions for identifying a lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs;

instructions for comparing the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs to a penalty associated with the first SLA; and

instructions for selecting an SLA associated with either the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs or the first SLA as a minimum penalty SLA based on the comparison.

12. The computer program product of claim 9, further comprising:

fifth instructions for retrieving current service provider system resource allocation information for applications associated with each SLA of the plurality of SLAs, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein the third instructions for determining a minimum penalty SLA based on the retrieved SLA information include:

instructions for identifying a subset of SLAs from the plurality of SLAs that have a sufficient current allocation of service provider system resources to be reallocated to applications associated with the first SLA in order to avoid breaching the first SLA;

instructions for identifying a lowest penalty associated with SLAs in the subset of SLAs, to thereby identify a lowest penalty SLA candidate; and

instructions for selecting the lowest penalty SLA candidate as the minimum penalty SLA.

13. The computer program product of claim 12, further comprising:

instructions for retrieving historical information for the lowest penalty SLA candidate;

instructions for determining if the lowest penalty SLA candidate has been breached more than a threshold number of times within a predetermined time period based on the historical information; and

instructions for selecting a next lowest penalty SLA from the subset of SLAs as the lowest penalty SLA candidate if the lowest penalty SLA candidate has been breached more than a threshold number of times within the predetermined time period.

14. The computer program product of claim 9, wherein the first instructions for determining whether a breach of a first SLA is imminent include instructions for using a prediction engine to generate a prediction of whether the first SLA will be breached based on monitored metrics of a service provider system.

15. The computer program product of claim 14, wherein the prediction engine is a trend analysis algorithm associated with a service level management system.

Docket No. AUS920040117US1

16. The computer program product of claim 9, wherein, if it is determined that a breach of a first SLA is not imminent, allocation of service provider system resources is performed in a default manner.

17. An apparatus for allocating service provider system resources to hosted applications, comprising:

means for determining whether a breach of a first SLA, in a plurality of service level agreements (SLAs) currently being serviced by service provider system resources, is imminent;

means for retrieving SLA information for the plurality of SLAs;

means for determining a minimum penalty SLA from the plurality of SLAs based on the retrieved SLA information; and

means for reallocating service provider system resources from applications associated with the minimum penalty SLA to applications associated with the first SLA.

18. The apparatus of claim 17, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein the means for determining a minimum penalty SLA based on the retrieved SLA information includes:

means for identifying a lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs;

Docket No. AUS920040117US1

means for comparing the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs to a penalty associated with the first SLA; and

means for selecting an SLA associated with either the lowest cost penalty from the one or more penalties associated with each SLA of the plurality of SLAs or the first SLA as a minimum penalty SLA based on the comparison.

19.   The apparatus of claim 17, further comprising:

means for retrieving current service provider system resource allocation information for applications associated with each SLA of the plurality of SLAs, wherein the SLA information includes one or more penalties associated with each SLA of the plurality of SLAs, and wherein the means for determining a minimum penalty SLA based on the retrieved SLA information includes:

means for identifying a subset of SLAs from the plurality of SLAs that have a sufficient current allocation of service provider system resources to be reallocated to applications associated with the first SLA in order to avoid breaching the first SLA;

means for identifying a lowest penalty associated with SLAs in the subset of SLAs, to thereby identify a lowest penalty SLA candidate; and

means for selecting the lowest penalty SLA candidate as the minimum penalty SLA.

Docket No. AUS920040117US1

20. The apparatus of claim 19, further comprising:

means for retrieving historical information for the lowest penalty SLA candidate;

means for determining if the lowest penalty SLA candidate has been breached more than a threshold number of times within a predetermined time period based on the historical information; and

means for selecting a next lowest penalty SLA from the subset of SLAs as the lowest penalty SLA candidate if the lowest penalty SLA candidate has been breached more than a threshold number of times within the predetermined time period.